

REMARKS

Examiner's Interview

The undersigned attorney wishes to thank Examiner Coleman for participating in an examiner's interviewing on July 25, 2007. During the interview, the differences between the apparatus described in Tamura and the present invention were discussed. In addition, proposed claim amendments were discussed that distinguish Tamura. This Preliminary Amendment and Response includes claim amendments that recite the differences discussed in the examiner's interview.

Pending Claims

Claims 1-39 have been cancelled. Claims 40-81 are pending in the present application. Independent claims 40 and 69 have been amended. The Applicant respectfully requests reconsideration of the pending claims in light of the amendments, arguments, and remarks presented in this Amendment and Response.

Allowable Subject Matter

The Applicant acknowledges with appreciation the statement made in the Office Action dated December 27, 2006 which indicates that dependent claims 57, 60, and 61 are allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Rejections under 35 U.S.C. §102

Claims 40-56, 58-59, 62-66 and 69-81 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,093,290 to Tamura et al. (hereinafter “Tamura”). The Office Action states that Tamura discloses the method of and apparatus for magnetron sputtering that are claimed in independent claims 40 and 69.

To anticipate a claim under 35 U.S.C. §102, a single reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught by the reference must be inherently present in the reference. Thus, a claim is anticipated by a reference only if each and every element of the claim is described, either expressly or inherently, in a single prior art reference.

Independent claim 40 has been amended to recite a method for manufacturing a coated substrate coated by magnetron sputtering that includes the step of circularly rotating the magnetron magnetic field pattern along the sputter surface. In addition, independent claim 40 has been amended to recite the step of varying an amount of material deposited on the substrate per time unit from the magnetron source that is phase-locked with the circularly rotating the magnetron magnetic field pattern.

The Applicant submits that a method with these steps is not described in the prior art of record. Therefore, the Applicant submits that independent claim 40 is allowable and that dependent claims 41-68 are allowable as depending from an allowable base claim.

Similarly, independent claim 69 has been amended to recite a magnetron sputtering apparatus comprising a magnetron sputter source having a sputter target with a sputter surface and a magnet arrangement, where the magnet arrangement is coupled to a drive to be circularly rotated along a plane parallel to the sputter surface. In addition, the magnetron sputtering apparatus comprises a modulation arrangement circularly modulating an amount of material per time unit sputtered off the sputter surface, where the modulation arrangement is phase locked with the drive.

The Applicant submits that a magnetron sputtering apparatus with these elements is not described in the prior art of record. Therefore, the Applicant submits that independent claim 69 is allowable and that dependent claims 70-81 are allowable as depending from an allowable base claim.

Rejections under 35 U.S.C. §103(a)

Dependent claims 67-68 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Tamura. To be unpatentable under 35 U.S.C. §103(a), the differences between the subject matter sought to be patented and the prior art must be such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the reference teachings.

As described in connection with the rejection of independent claim 40 under 35 U.S.C §102 the Applicant submits that dependent claims 41-68 are allowable as depending from an allowable base claim. Thus, the Applicant submits that independent claims 67-68 are not obvious over Tamura because Tamura does not teach or suggest the claimed step of varying a total amount of material deposited on the substrate per time unit.

CONCLUSION

Claims 40-81 are pending in the present application. Claims 40 and 69 have been amended. The Applicant respectfully requests reconsideration of the pending claims in light of the amendments, remarks, and arguments presented in this Amendment and Response.

If, in the Examiner's opinion, a telephonic interview would expedite prosecution of the present application, the undersigned attorney would welcome the opportunity to discuss any outstanding issues, and to work with the Examiner toward placing the application in condition for allowance.

Respectfully submitted,

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